(c) whether the power production in the country is not sufficient to meet the demand of villages; and

(d) if so, the plans to be formulated to generate power production during the present plan period?

THE MINISTER OF POWER (SHRI SUSHIL KUMAR SHINDE): (a) Yes, Sir.

(b) Out of a total of 593732 numbers of inhabited villages in the country, 487351 villages have been electrified leaving a balance of 106381 unelectrified villages up to 31.12.2007 (as per CEA).

(c) and (d) To meet the growing need of power, capacity addition of 78,578 MW comprising 58,571 MW Thermal, 16,627 MW Hydro and 3380 MW from Nuclear has been planned during Eleventh Plan. In addition to above capacity addition planned from Conventional Sources, a capacity addition of 14,000 MW from Renewable Sources and 12,000 MW surplus power from Captive Plants is also expected during Eleventh Plan.

Decline in power supply

†419. SHRI JAI PARKASH AGGARWAL: Will the Minister of POWER be pleased to state:

(a) whether supply of power has declined in the country;

(b) if so, the details thereof, State-wise including Delhi and the reasons therefor;

(c) the steps taken or proposed to be taken by Government to meet the shortage of power in the country, particularly in Delhi; and

(d) the power being generated by the States from their own resources, as on date?

THE MINISTER OF POWER (SHRI SUSHILKUMAR SHINDE): (a) and (b) The total availability of power in the country during the current year (April, 2007 to January, 2008) was 554,248 MU as compared to 520,507 MU during the corresponding period of last year, representing a growth of 6.5%.

(c) The steps taken/being taken to improve the power supply position in the country, include augmentation of generating capacity by over 78,500 MW during the Eleventh Plan, development of Ultra Mega Power Projects of 4,000 MW capacity each, improving performance of existing power stations, renovation, modernization and life extension of old and inefficient generating units, harnessing surplus captive power into the grid, strengthening of inter-State and inter-regional transmission capacity for optimum utilization of available power, promoting demand side management, energy efficiency and energy conservation measures and import of power from Bhutan.

At present a total allocation of 3099 MW has been made to Delhi from the Central Generating Stations. Memoranda of Understanding/Power Purchase Agreements have been signed by Delhi for availing power from various Central Generating Utilities, like, NTPC, Damodar Valley Corporation, National Hydro-electric Power Corporation & Tehri Hydro Development Corporation. By the Commonwealth Games, 2010, Delhi will receive power out of the joint venture - Aravali Thermal Power Project (TPP) (installed capacity 1500 MW),

† Original notice of the question was received in Hindi.

Mejia Expansion TPP (installed capacity 1000 MW), Koderma TPP (installed capacity 1000 MW), Durgapur TPP (installed capacity 1000 MW) of DVC, and Dadri-II TPP Expansion (installed capacity 980 MW) of NTPC. Besides this, Government of Delhi is in the process of establishing Pragati Phase-II (Bawana Project) of 1500 MW and Pragati-III (Bamnauli Project) of 750 MW.

(d) The power generated by the States from their own resources, *i.e.* State Sector and Private Sector projects during 2007-08 (April, 2007 to January, 2008) was 331,904 MU.

Use of clean coal technology in power sector

420. SHRI SHAHID SIDDIQUI: Will the Minister of POWER be pleased to state:

(a) the steps taken to bring clean coal technology to the power sector; and

(b) which are the countries from where this technology can be imported?

THE MINISTER OF POWER (SHRI SUSHILKUMAR SHINDE): (a) Some of the prevalent clean coal technologies and steps being taken to adopt these technologies in India are as follows:

(i) **Supercritical Technology:—**

In India supercritical units of 660 MW are under installation at Sipat and Barh Thermal Power Stations (TPS) of NTPC Ltd. Apart from these, a number of supercritical units with unit size of 660/800 MW have been planned to be set up by NTPC Ltd. and State utilities. Ultra Mega Power Projects are also envisaged to be with supercritical parameters.

(ii) **Circulating Fluidised Bed Combustion (CFBC) Technology:—**

Four CFBC units of 125 MW each are operating at Surat lignite TPS and Akrimota TPS in Gujarat. Six CFBC units of 125 MW each are under execution at Surat Lignite, Giral TPS and Barsingsar TPS. CFBC units of 250 MW are being installed at Neyvelli by Neyvelli Lignite Corporation.

(iii) **Integrated Gasification Combined Cycle (IGCC)**

So far the world over, IGCC technology has been adopted for low ash coal which is not suitable for Indian high ash coal. In India, efforts are underway to develop this technology through indigenous efforts.

(b) Supercritical generating units are being manufactured by a number of countries *viz.*, USA, Japan, Germany, Korea, Russia, China etc. BHEL has also on-going collaboration for manufacture of supercritical boilers and turbine generators with M/s Alstom and M/s Siemens respectively. M/s Larsen & Toubro Limited (L&T) has also formed a joint venture company for manufacture of supercritical boilers and turbine generators with M/s Mitsubishi Heavy Industries (MHI), Japan.

CFBC boilers are already being manufactured in India and BHEL has been supplying boilers and turbine generators for 125 MW and 250 MW supercritical units installed by power utilities.